

ONTARIO MINISTRY OF ENVIRONMENT

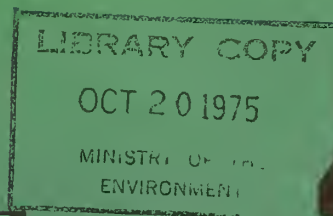


36936000023327

OPERATING SUMMARY

1
9
7
4

LABORATORY & RESEARCH LIBRARY
MINISTRY OF THE ENVIRONMENT



LAB

TOWN OF

CARLETON PLACE

WATER POLLUTION CONTROL PLANT

TD
367
.A56
C374
1974
MOE

TD
367
.A56
C374
1974

Carleton Place : water pollution
control plant.

81479



MINISTRY OF THE ENVIRONMENT

MINISTER
Honourable William G. Newman

DEPUTY MINISTER
E. Biggs

ASSISTANT DEPUTY MINISTER
REGIONAL OPERATIONS
J. Barr

REGIONAL OPERATIONS DIVISION

DIRECTOR, SOUTHEASTERN REGION
C.E. McIntyre

MANAGER, UTILITY OPERATIONS
A. Symmonds

CARLETON PLACE
WATER POLLUTION CONTROL PLANT

MINISTRY OF THE ENVIRONMENT

1974 ANNUAL OPERATING SUMMARY

prepared by

Plant Performance Unit

TECHNICAL SERVICES BRANCH

T. Cross, Director



Digitized by the Internet Archive
in 2015

TD
227
C37
V32
1979
MOE

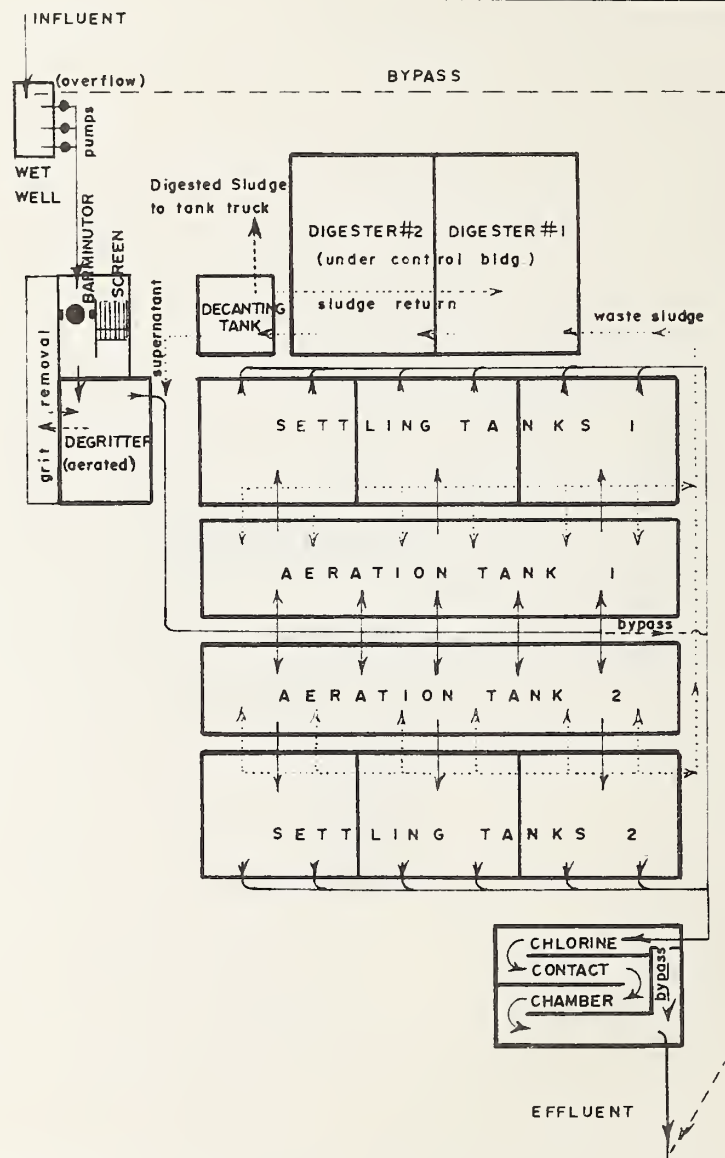
<https://archive.org/details/carletonplacewat23327>

AS17

CONTENTS

Title Page	. . . . .	1
Flow Diagram	. . . . .	4
Design Data	. . . . .	5
Operating Cost	. . . . .	6
Process Data	. . . . .	8

TOWN OF
CARLETON PLACE
WATER POLLUTION CONTROL PLANT



DESIGN DATA

PROJECT NO: 1-0009-66
TREATMENT: High Rate Activated Sludge
DESIGN FLOW: 1.2 MGD
DESIGN BOD: 108 mg/l
DESIGN SS: 126 mg/l

SEWAGE LIFT PUMPS

Type: Chicago Pump
Cap. Three 1050 IGPM @ 23' TDH

PRETREATMENT

1. Coarse Bar Screen, 2" c-c
2. Barminutor, CP model 15C-12
and bypass screen 1" c-c
3. Grit Removal - C. P. Aer-Degritter
- Size 10' x 13' x 7' avg (5700 gal)

AERATION SECTION

- Tank Size: two 76' x 10'-9" x 9'-1"
(90,000 gal. total)
- Detention: 1.8 hr @ 1.2 mgd
- Air Supply: Three SUTORBILT 1240 cfm
- Diffusers: C. P. FLEXOFUSERS

SETTLING TANKS

Size: Six 25' x 16' hopper bottom tanks
in two sets of three
(total volume: 125,000 gal)
Detention: 2.5 hr @ 1.2 mgd
Loading: 500 gpd/sq. ft.

CHLORINATION

Tank Size: 26' x 20' x 6' (20,000 gal)
Detention: 24 minutes @ 1.2 mgd.
Chlorinator: W & T V-800 200 lb/day,
flow prop.

AEROBIC DIGESTER

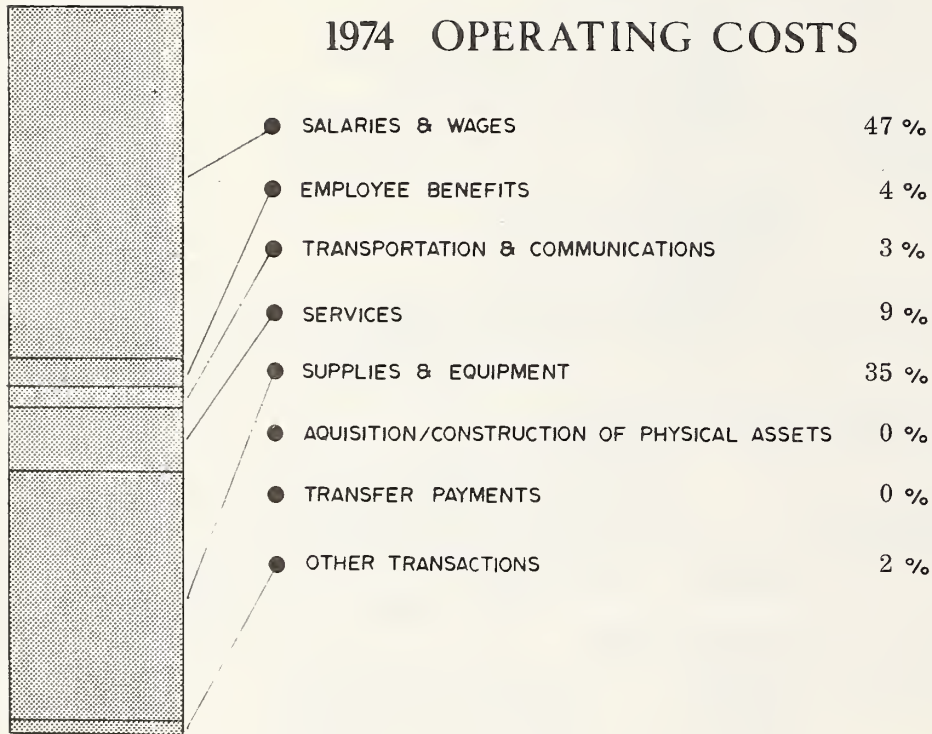
Size: Two 28' x 33'-6" x 12'-8"
(160,000 gal total)

DECANTING TANK

Size: 10' x 10' hopper bottom
(4300 gal)

ANNUAL COSTS

1974 OPERATING COSTS



YEARLY OPERATING COSTS

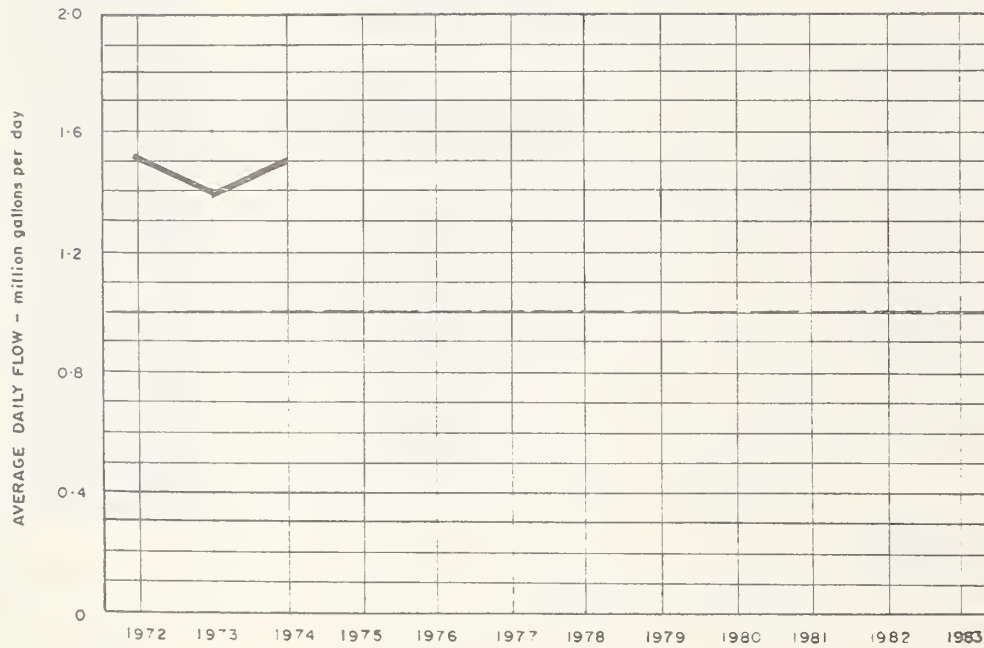
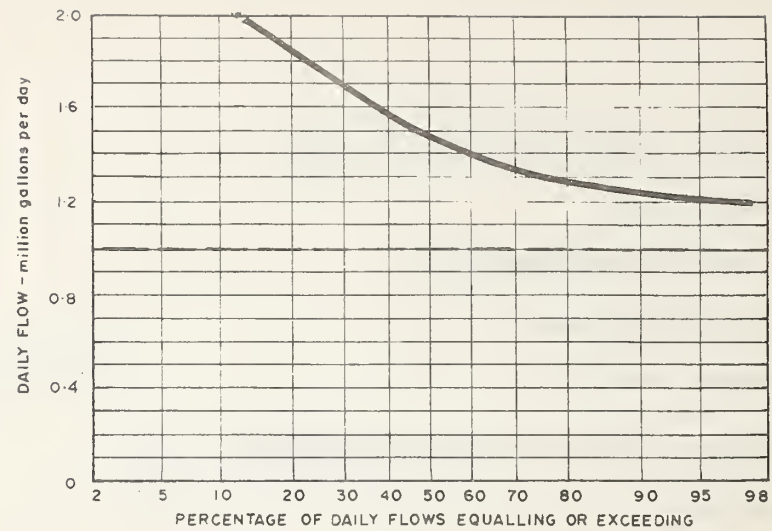
YEAR	SEWAGE TREATED in million gallons	TOTAL OPERATING COSTS	UNIT COSTS	
			\$/M.G	¢/lb BOD
1974	559	55911	100	91

OPERATING EXPENDITURES

Regular Staff	\$ 24783	\$
Casual (Unclassified) Staff	1362	
TOTAL SALARIES AND WAGES		26145
TOTAL EMPLOYEE BENEFITS		2506
TOTAL TRANSPORTATION AND COMMUNICATIONS		1746
Insurance	419	
Sludge Haulage	2575	
Repairs and Maintenance	1758	
Other Services	296	
TOTAL SERVICES		5048
Machinery and Equipment	4462	
Chemicals	4471	
Utilities	9032	
Other Supplies and Equipment	1631	
TOTAL SUPPLIES AND EQUIPMENT		19596
TOTAL AQUISITION/CONSTRUCTION OF PHYSICAL ASSETS		
TOTAL TRANSFER PAYMENTS		
OTHER TRANSACTIONS		870
GRAND TOTAL	GRAND TOTAL	\$ 55911

PROCESS DATA

FLOWS

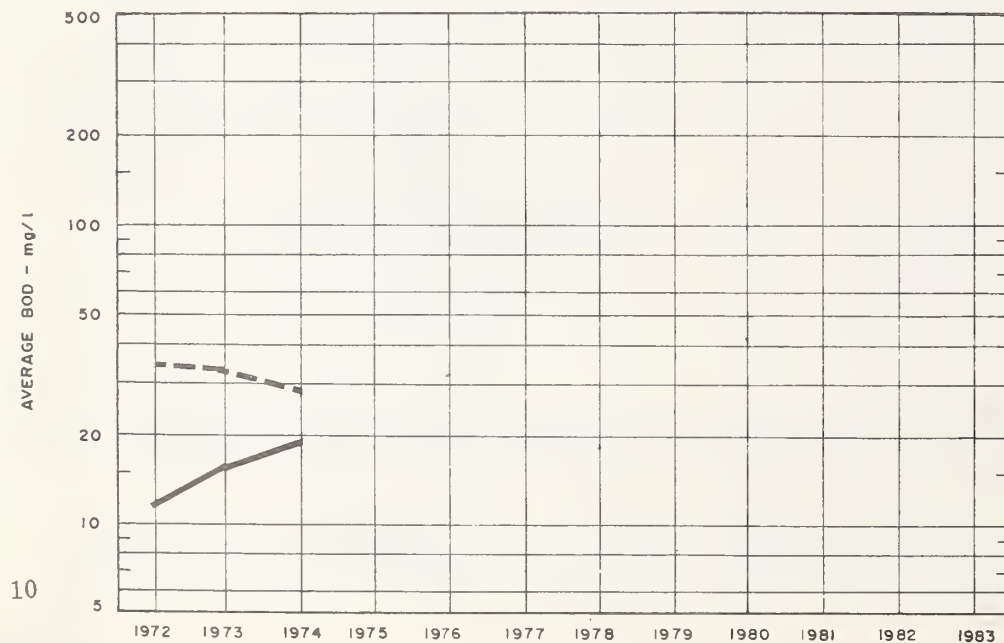
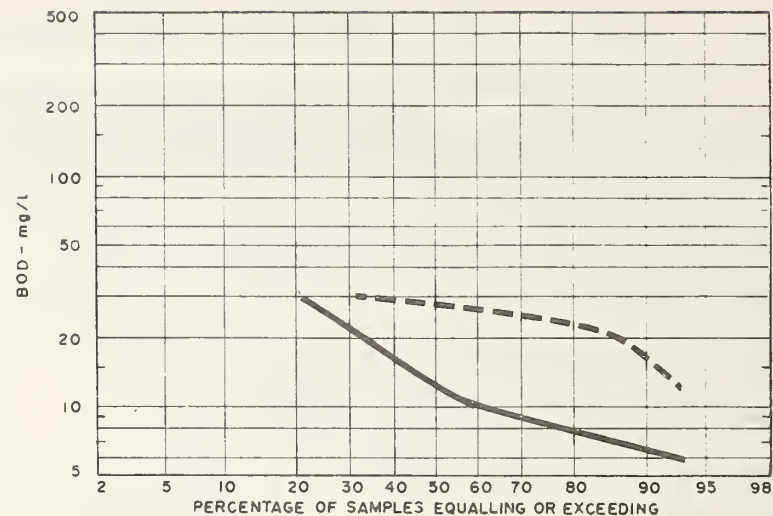


DESIGN CAPACITY - - - - -

PLANT PERFORMANCE

MONTH	FLOWS			BIOCHEMICAL OXYGEN DEMAND				SUSPENDED SOLIDS				PHOSPHORUS	
	TOTAL FLOW	AVERAGE DAY	MAXIMUM DAY	INFLUENT	EFFLUENT	REDUCTION		INFLUENT	EFFLUENT	REDUCTION		INFLUENT	EFFLUENT
	million gallons	mil. gal	mgd	mg/l	mg/l	%	10 ³ pounds	mg/l	mg/l	%	10 ³ pounds	mg/l P	mg/l P
JAN	43.5	1.4	2.5	47	22	53	10.9	56	43	23	5.7	2.0	2.8
FEB	38.5	1.4	2.3	27	19	30	3.1	41	43	0	0	1.7	2.2
MAR	50.7	1.6	2.4										
APR	62.7	2.1	2.7	28	9	68	11.9	28	39	0	0	.6	.8
MAY	48.3	1.6	2.7	35	30	14	2.4	25	24	4	.5	1.3	1.3
JUNE	44.5	1.5	2.4	28	36	0	0	57	16	72	18.2	1.8	2.1
JULY	41.0	1.3	1.7	20	12	40	3.3	103	27	74	31.2	2.1	1.9
AUG	46.4	1.5	1.7	20	9	55	5.1	34	10	71	11.1	1.8	1.2
SEPT	46.4	1.5	1.7	20	9	55	5.1	30	14	53	7.4	1.2	1.1
OCT	38.1	1.2	1.4	35	13	63	8.4	56	22	61	13.0	3.4	.8
NOV	46.2	1.5	2.1					9					
DEC	52.7	1.7	2.8	23	30	0	0	35	43	0	0	1.1	1.0
TOTAL	559.0	-	-	-	-	-		-	-	-		-	-
AVG.	46.6	1.5	MAXIMUM 2.8	29	18	38	7.7	45	28	38	13.6	1.6	1.6
No. of Samples	-	-	-	14	13	-	-	32	30	-	-	14	12

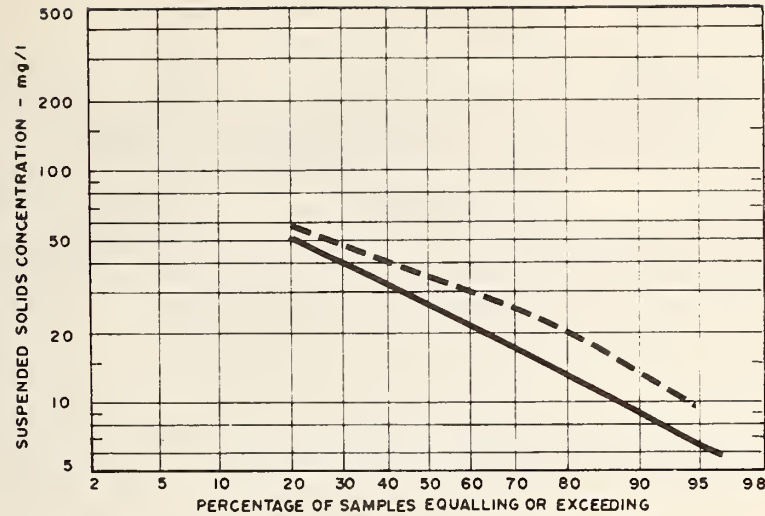
BIOCHEMICAL OXYGEN DEMAND



PLANT INFLUENT - - - - -

PLANT EFFLUENT _____

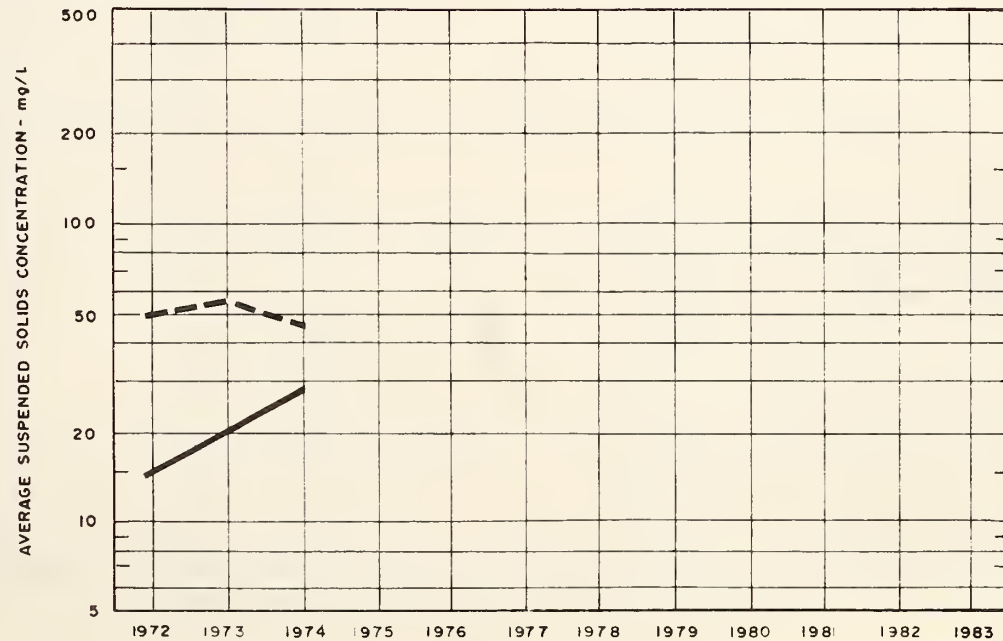
SUSPENDED SOLIDS



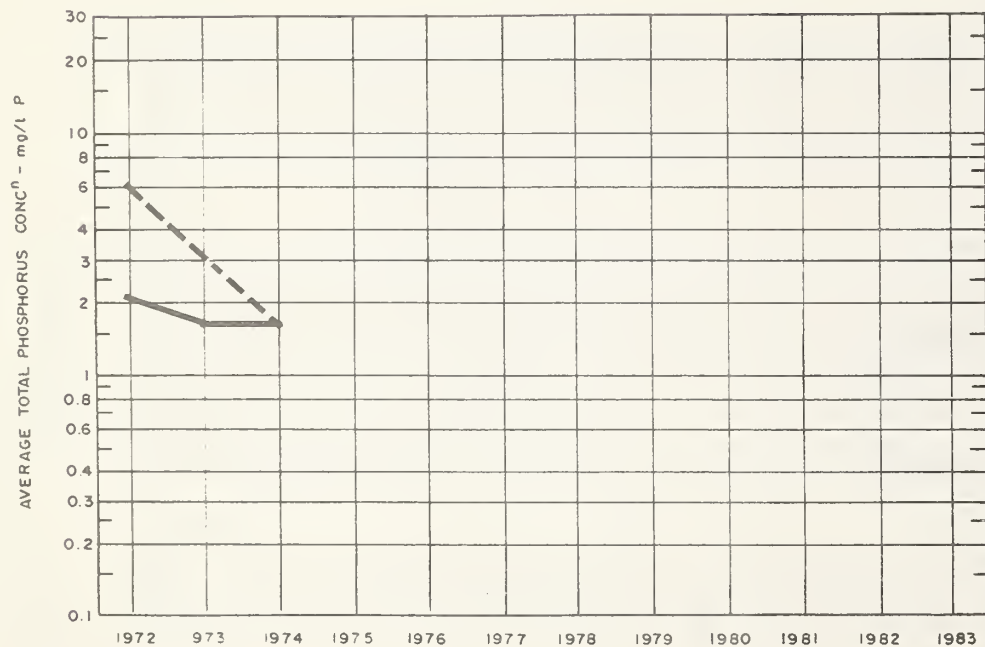
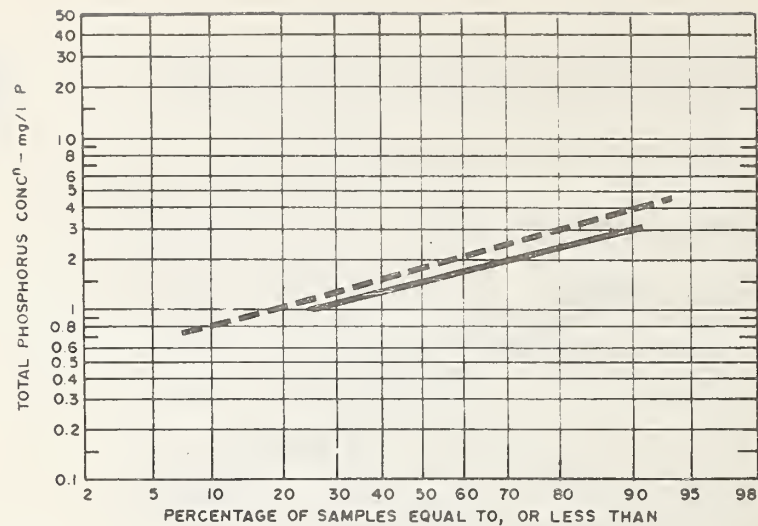
PLANT INFLUENT

PLANT EFFLUENT

—————



PHOSPHORUS



PLANT INFLUENT

PLANT EFFLUENT

TREATMENT DATA

MONTH	GRIT	CHLORINATION		AERATION			WASTE SLUDGE			AEROBIC DIGESTER			
	QUANTITY REMOVED cubic feet	Cl ₂ USED 10 ³ pounds	AVG. DOSAGE mg/l	MLSS CONC mg/l	F/M day ⁻¹	AIR USED 1000 ft ³ lb BOD	QUANTITY 10 ⁶ gallons	SUSPENDED SOLIDS mg/l	VOL. SOLIDS %	QUANTITY REMOVED 10 ³ gallons	SUSPENDED SOLIDS mg/l	VOL. SOLIDS %	AMOUNT HAULED cubic yards
JAN	6	1.3	3.1	2500	.28	1.4	.08				6700		
FEB		1.1	2.9	2200	.18	4.5	.04						
MAR		1.0	1.9	3300			.04						
APR	16	1.1	1.8	2300	.24	1.4	.06	10000					
MAY	24	1.1	2.4	2600	.23	6.2	.12				6700		
JUNE	9	1.3	2.9	2800	.16	0	.18	6900		9.0			53
JULY	15	1.2	3.0	3000	.09	4.8	.10	4200			11000		
AUG	12	1.2	2.7	3000	.10	3.0							
SEPT	3	1.2	2.6	3200	.10	3.0				4.3	15000	66	26
OCT.	6	1.3	3.4	3300	.14	1.9					26000	72	
NOV		1.2	2.5	3000									
DEC		1.3	2.7	3000	.08								
TOTAL	91	14.3	-	-	-	-	.62	-	-	13.3	-	-	79
AVG.	.2 cu. ft/mit gal	1.2	2.6	2900	.16	3.3	.09	7000			13000	69	

ONTARIO. MINISTRY OF THE ENVIR-
ONMENT. PROJECT OPERATIONS BRANCH
TD 227 / C36 / W375 / 1974 / MOE
CARLETON PLACE WATER POLLUTION
CONTROL PLANT. ANNUAL OPERATING
SUMMARY.
1974

DATE	ISSUED TO
	asiy

TD227/C36/W375/1974/MOE
Ontario Ministry of the En
Carleton Place water
pollution control
asiy
c.1 a aa



Environment Ontario
Library
145 St. George Street
Toronto, Ontario M5P 3V6
Canada

PRINTED IN CANADA

TD
367
.A56
C374
1974

Carleton Place : water pollution
control plant.
81479

